Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A semiconductor laser comprising a semiconductor layer group,

wherein said semiconductor layer group is composed of an n-type emitter layer, a p-type base layer, an active layer, an n-type base layer and a p-type emitter layer which are successively formed on a given ~~substrate.~~substrate,

and wherein the successively formed n-type emitter layer, the p-type base layer, the active layer, and the n-type base layer constitute a first semiconductor layer group which functions as a first bipolar transistor, and the first bipolar transistor is controlled to adjust an amount of electrons to be injected into the active layer,

and wherein the successively formed p-type base layer, the active layer, the n-type base layer and the p-type emitter layer constitute a second semiconductor layer group which functions as a second bipolar transistor, and the second bipolar transistor is controlled to adjust an amount of holes to be injected into the active layer,

and wherein by controlling at least one of said amount of electrons and said amount of holes to be injected into said active layer, an intensity of light generated and oscillated is modulated.

2. (Currently Amended) The semiconductor laser as defined in claim 1,

wherein by applying a forward voltage, which is smaller than an inherent barrier voltage of a pn junction, to said pn junction being formed of the p-type base layer, the active layer and the n-type base layer, a voltage is applied to said active layer to generate a drift current therein and to generate and oscillate a light of a given wavelength. ~~a voltage is~~

~~applied to said active layer to generate a drift current therein and said active layer is excited by said drift current to generate and oscillate a light of a given wavelength.~~

3. (Currently Amended) The semiconductor laser as defined in ~~claim 2,~~claim 1, wherein a backward voltage is applied to a pn junction composed of said p-type base layer, said active layer and said n-type base layer to inject a drift current into the active layer and to generate and oscillate a light of a given wavelength. ~~a backward voltage is applied to a pn junction composed of said p-type base layer, said active layer and said n-type base layer.~~

4. (Currently Amended) The semiconductor laser as defined in claim 1, wherein a forward voltage is applied to a pn junction composed of said p-type base layer, said active layer and said n-type base layer to inject a diffusion current into the active layer and to ~~voltage is applied to said active layer to generate a diffusion current therein and said active layer is excited by said diffusion current to generate and~~ oscillate a light of a given wavelength.

5. (Original) The semiconductor laser as defined in claim 4, a forward voltage is applied to a pn junction composed of said p-type base layer, said active layer and said n-type base layer.

6-10. (Canceled)

11. (Original) The semiconductor laser as defined in claim 1, wherein said semiconductor layer group is made of III-V group semiconductor compound.

12. (Original) The semiconductor laser as defined in claim 11, wherein said III-V group semiconductor compound is defined as $In_{1-X}Ga_XAs_{1-Y}P_Y$ ($0 \leq X \leq 1$, $0 \leq Y \leq 1$).

13. (Currently Amended) The semiconductor laser as defined in claim 1, wherein said semiconductor layer group includes an electron traveling layer between said p-type base layer and said active ~~layer.~~layer,

and wherein said electron traveling layer is made of III-V group semiconductor compound.

14. (Canceled)

15. (Currently Amended) The semiconductor laser as defined in ~~claim 14,~~claim 13 wherein said III-V group semiconductor compound is defined as $In_{1-P}GaPAs_{1-Q}P_Q$ ($0 \leq P \leq 1$, $0 \leq Q \leq 1$).

16. (Currently Amended) A method for oscillating a semiconductor laser comprising a semiconductor layer group composed of an n-type emitter layer, a p-type base layer, an active layer, an n-type base layer and a p-type emitter layer which are successively formed on a given substrate, comprising ~~a step~~ the steps of:

constituting a first semiconductor layer group, in which the n-type emitter layer, the p-type base layer, the active layer, and the n-type base layer are successively formed, and functioning said first semiconductor layer group as a first bipolar transistor, and adjusting an amount of electrons to be injected into the active layer by controlling the first bipolar transistor;

constituting a second semiconductor layer group, in which the p-type base layer, the active layer, the n-type base layer and the p-type emitter layer are successively formed, functioning the second semiconductor layer group as a second bipolar transistor, and adjusting an amount of holes to be injected into the active layer by controlling the second bipolar transistor; and

controlling at least one of said amount of electrons and said amount of holes to be injected into said active layer, and modulating an intensity of light to be generated and oscillated.

~~applying a voltage to said active layer to generate a drift current therein so that said active layer is excited by said drift current to generate and oscillate a light of a given wavelength.~~

17-18. (Canceled)

19. (Currently Amended) The oscillating method as defined in ~~claim 18,~~claim 16, further comprising the steps of:

applying a forward voltage, which is smaller than an inherent barrier voltage of a pn junction, to said pn junction being formed of the p-type base layer, the active layer and the n-type base layer, so that a voltage is applied to said active layer to generate a drift current therein and to generate and oscillate a light of a given wavelength. ~~wherein a forward voltage is applied to a pn junction composed of said p-type base layer, said active layer and said n-type base layer.~~

20-24. (Canceled)

25. (New) The oscillating method as defined in claim 16, further comprising the step of:

applying a backward voltage to a pn junction being formed of the p-type base layer, the active layer and the n-type base layer to inject a drift current into the active layer and to generate and oscillate a light of a given wavelength.

26. (New) The oscillating method as defined in claim 16, further comprising the step of:

applying a forward voltage to a pn junction being formed of the p-type base layer, the active layer and the n-type base layer to inject a diffusion current into the active layer and to generate and oscillate a light of a given wavelength.

27. (New) The oscillating method as defined in claim 16,

wherein said semiconductor layer group is made of III-V group semiconductor compound.

28. (New) The oscillating method as defined in claim 16,

wherein said III-V group semiconductor compound is defined as $In_{1-X}Ga_XAs_{1-Y}P_Y$ ($0 \leq X \leq 1$, $0 \leq Y \leq 1$).

29. (New) The oscillating method as defined in claim 16,

wherein said semiconductor layer group includes an electron traveling layer between said p-type base layer and said active layer, whereby a current oscillation due to Gunn effect of said semiconductor layer group achieves a high-speed modulation of light intensity due to a relaxation oscillation of said semiconductor laser so that an intensity of said light generated and oscillated can be modulated at high speed.

30. (New) The oscillating method as defined in claim 29,

wherein said electron traveling layer is made of III-V group semiconductor compound being defined as $In_{1-P}GaPAs_{1-Q}P_Q$ ($0 \leq P \leq 1$, $0 \leq Q \leq 1$).